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Equitable Access for Underrepresented Students in Gifted Education

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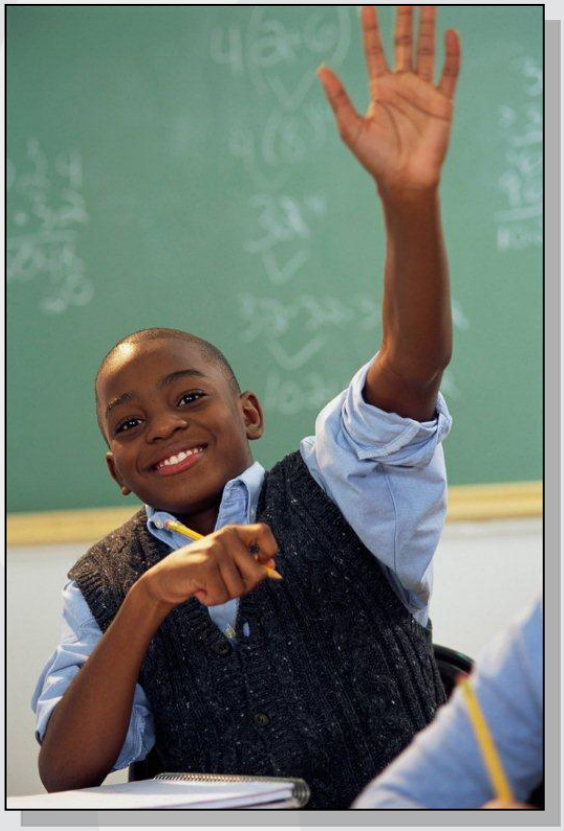

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Abstract

Racial and ethnic disproportionality in gifted education is a persistent and perennial inequity in many school districts. This report describes the root causes of this disproportionality and discusses ways in which this issue can be addressed. Whereas most of the attention has been paid to assessment, specifically the use of nonverbal tests to identify gifted students, this report argues that implementing talent development measures is key to increasing the numbers of racially and/or linguistically diverse students in gifted education. Because socioeconomic status has a substantial effect on a child's linguistic and intellectual development, talent development strategies that shore up academic deficiencies from a young age hold promise over strategies that merely aim to provide a nonbiased assessment of ability. To give the reader a purview of the different talent development measures, several successful programs are described. The report concludes with a list of recommendations for district leadership.

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Equitable Access for Underrepresented Students in Gifted Education

The underrepresentation of African American, Latino, and American Indian students in gifted and talented programs and advanced placement (AP) classes is a recurring and persistent problem in education. White and Asian students are referred and identified for gifted programs at much higher rates than other racial and ethnic subgroups. With the current trend and projection of minority and English language learner (ELL) enrollment increasing, addressing the disproportionality in gifted education is likely to become an even greater imperative, especially for districts receiving an influx of minority, low-income, or English language learning students. The demographic data presented in this report illustrate that the mid-Atlantic region is in the midst of a significant increase in minority enrollment, and as such, there is a need for districts to develop safeguards and policies that ensure equity in gifted education. Districts that have traditionally been majority White, middle- to high-income, and suburban will need to have in place referral, assessment, and identification policies as well as talent development programs that provide this diverse student body access to gifted services and AP courses.

Drawing on research from the field of education and human development, this report describes the sources of disproportionality in gifted education and explores strategies for addressing this issue. To achieve proportionality, this report makes the case that district leadership should pursue a talent development approach that builds the academic skills and abilities of traditionally underrepresented students starting in the early grades rather than a strategy that merely focuses on ability testing and nonbiased assessment during the identification process. First, the report presents demographic data to illustrate the increasing diversity of student enrollment in the mid-Atlantic region. The second section discusses factors that contribute to disproportionality in gifted education and strategies for addressing these limitations. The third section describes the role that poverty plays in disproportionality in gifted education. The fourth section argues for a talent development approach to gifted education and

highlights several promising talent development programs and studies to give the reader a purview of programs and interventions which can be tailored to their district. Lastly, it includes recommendations for how district leadership can address disproportionality in gifted education.

Changing Demographics in the Mid-Atlantic Region: Increasing Diversity

Over the past two decades, enrollment in the mid-Atlantic region's public schools increasingly has become more diverse (see *Figure 1*).[1] Between 1992 and 2006, the percentage of White students declined while the percentage of minority students increased. Minority enrollment in the mid-Atlantic region increased by 45% between 1992 and 2006 (U.S. Department of Education). As of the 2007-08 school year, the racial/ethnic composition of enrollment in mid-Atlantic schools was 63.28% White, 23.98% Black, 7.64% Hispanic, 3.95% Asian, and 0.25% American Indian (Frankenberg, 2010). This varies by state within the mid-Atlantic region with Maryland a minority/majority state; West Virginia is predominantly White, and the District of Columbia is predominantly Black.

[1] The Mid-Atlantic Region is comprised of Delaware, Pennsylvania, the District of Columbia, Maryland, Virginia, and West Virginia.

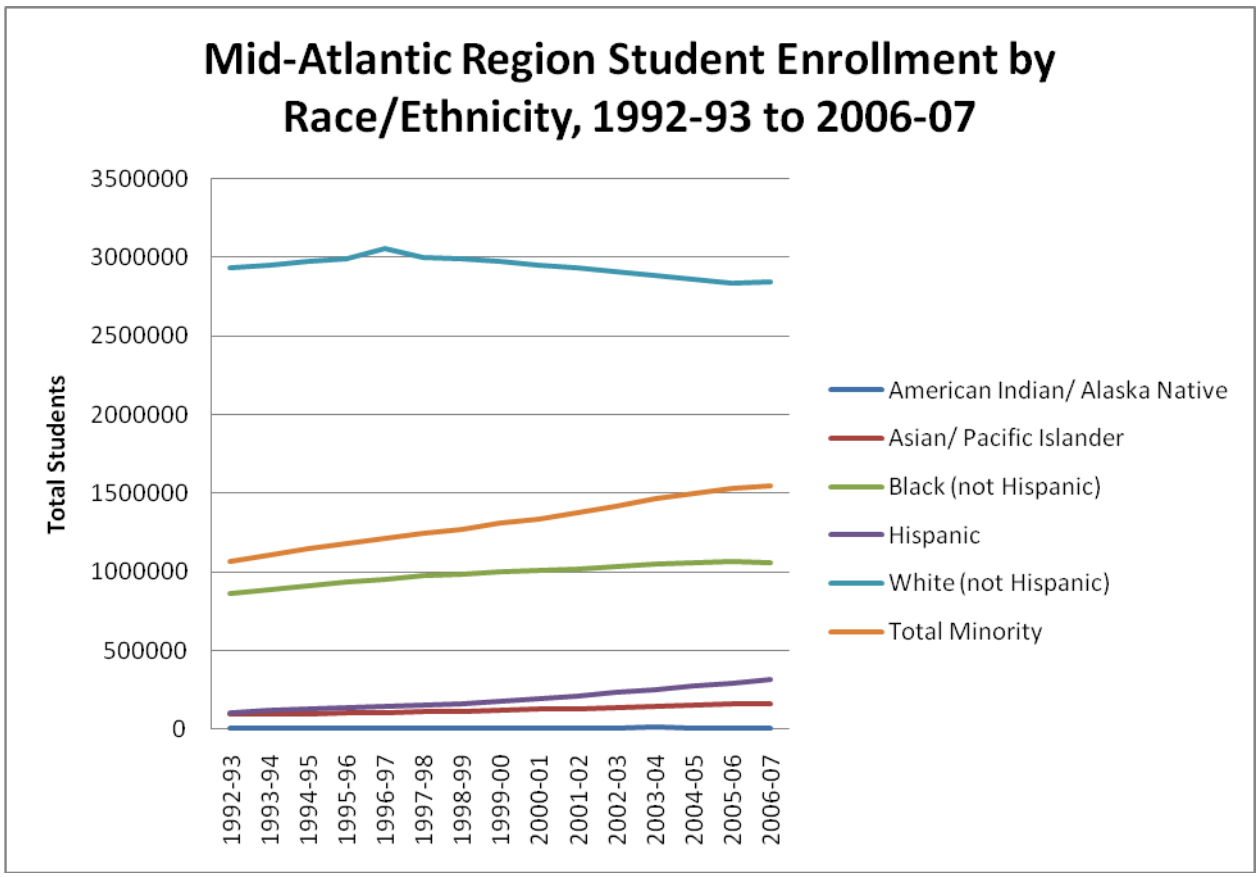

Figure 1. Mid-Atlantic Region Student Enrollment by Race/Ethnicity, 1992-93 to 2006-07. Source: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education" , 1992-93 v.1c, 1993-94 v.1b, 1994-95 v.1b, 1995-96 v.1b, 1996-97 v.1c, 1997-98 v.1c, 1998-99 v.1b, 1999-2000 v.1b, 2000-01 v.1c, 2001-02 v.1c, 2002-03 v.1b, 2003-04 v.1b, 2004-05 v.1f, 2005-06 v.1b, 2006-07 v.1a.

At the school level, on average, White students now make up a smaller percentage of a school's total enrollment. Between 2000 and 2007, 80.2% of schools in the mid-Atlantic region experienced a decline in White enrollment. Nearly 1,000 schools, which is 14% of schools in the region, experienced a decline in White enrollment that was greater than three times the national average, which was a 4.2% decrease in White enrollment from 2000 to 2007 (Frankenberg, 2010). Moreover, the racial composition of schools is changing. The percentage of predominantly minority schools in the region (i.e. schools with minority enrollment ranging from 50% to 100%) increased from 24.5% in 2000 to 30.5% in 2007 (Frankenberg, 2010). Likewise, the number of racially-isolated White schools (i.e. schools with White enrollment ranging between 90% and 100%) declined from 45.8% in 2000 to 35.1% in 2007 (Frankenberg, 2010). Given the growing diversity in schools in the mid-Atlantic region and the influx of

minority and low-income students into suburban areas, it will be important for schools and districts to monitor how these patterns impact access to gifted and talented programming.

Since disproportionality in gifted education not only consists of the underrepresentation of Black and Hispanic students, but also includes the underrepresentation of students from low socioeconomic status (SES) backgrounds, identification practices that are equitable should also take into account the needs of students living in poverty. In mid-Atlantic schools, the average Black student goes to school where 47.48% of the student body lives in poverty, i.e. qualifies for free or reduced price lunch (FRL), and the average Hispanic student attends a school in which 45.47% of the student body lives in poverty. In contrast, the average White student and the average Asian student in the region attend a school which is comprised of 27.59% and 24.58% of FRL students respectively (Frankenberg, 2010). These numbers indicate that schools with a larger percentage of Black and Hispanic students also tend to have greater numbers of FRL students. Such statistics underscore the need for strategies that also address the disproportional under-representation of low-SES students in gifted education.

Contributing Factors to Disproportionality in Gifted Education

The scholarship on disproportionality in gifted and talented programs enumerates a multitude of factors that contribute to the underrepresentation of Black and Hispanic students in gifted programs; the most recognized and substantial factors are summarized here. Generally, a deficit orientation, ineffective teacher referral policies, and the use of culturally biased assessments are the factors that are most responsible for yielding low rates of identification for gifted minority students.

Deficit orientation is a pervasive mode of thinking in which it is thought that "students who fail do so because of alleged internal deficiencies, such as cognitive and/or motivational limitations, or shortcomings socially linked to the youngster—such as familial deficits and dysfunctions"(Valencia, 1997; as cited in Ford, Grantham, & Whiting, 2008, p.292). A deficit orientation manifests itself in the

form of low expectations for minority students and a perception that these students have innate cognitive and scholastic abilities that are fixed. As Ford, Grantham, and Whiting (2008) point out, the consequent behaviors of a deficit orientation "include a heavy reliance on tests with little consideration of biases, low referral rates of culturally and linguistically diverse students for gifted education services, and the adoption of policies and procedures that have a disparate impact on diverse students" (p.293).

Overcoming a deficit orientation is essential to increasing the number of diverse students identified as gifted. If a school's leadership and its teachers are prone to viewing underachieving students as products of fixed, innate cognitive abilities and cultural and familial influences, then they may be overlooking the potential of many students, and, in doing so, fail to provide the supports and assessment policies necessary to identify and place these students in a gifted program.

Coupled with this tendency of holding a deficit orientation, an overreliance on teacher referrals to initiate the assessment process is a major contributor to disproportionality. Since some teachers may have stereotypical beliefs about a student's innate abilities or because culturally and/or linguistically diverse students may not conform to a teacher's preconceptions of what signifies giftedness, such a teacher may be more inclined to overlook a diverse student who is gifted. Ford (1996) found that most African American students in her study were not referred for screening even though they had test scores high enough to meet district identification criteria (as cited in Ford et al., 2008). Similarly, a study by Plata and Masten (1998), which examined whether teachers nominated White students and Hispanic students for gifted programs at different rates, found that White students were nominated at a significantly higher rate (as cited in Ford et al., 2008). Additionally, the study asked the teachers to rate the students' behavior using the *Scales for Rating Behavior Characteristics of Superior Students (SRBCSS)*. This rating system asks teachers to rate students in four categories of giftedness: learning, motivation, creativity, and leadership. The study found that the teachers rated the aptitudes and

abilities of White students and Hispanic students very differently. Hispanic students received a lower mean score in all four of the gifted categories.

Besides the gatekeeper effect of teacher referrals, many researchers attribute disproportionality to the use of intelligence tests to determine the aptitude and ability of a student who is a candidate for a gifted program. The use of intelligence tests such as the Stanford-Binet IV and the Wechsler Intelligence Scale for Children—Third Edition are widely viewed as having a disparate impact on minority students and ELLs since these students may lack the linguistic skills and cultural sensibilities which are requisite for performing well on these assessments. Research shows that intelligence tests consistently yield lower mean scores for minority students when compared with the scores of White students, yet these tests are frequently used for gifted identification (Ford, 2004; Naglieri & Ford, 2003). Gifted identification procedures that utilize cutoff scores based on these tests can result in disproportionate rates of identification.

In order to circumvent the cultural and linguistic bias of assessments with verbal and quantitative components, many researchers recommend the use of nonverbal assessments such as the Naglieri Nonverbal Ability Test (NNAT), Universal Nonverbal Intelligence Test (UNIT), or Raven's Progressive Matrices. Though nonverbal assessments have been embraced as a fair and equitable way to assess a student's general reasoning ability, there is still some debate as to whether all racial/ethnic groups score similarly on these tests and how well the tests can predict a student's potential for success in a gifted program. A study by Naglieri and Ford (2003) found that a sample of White, Black and Hispanic students—representative of the national school population in terms of urbanicity, SES status, gender, and geographic region—scored similarly on the NNAT (with mean scores within three percentage points of each other). More importantly, with regard to gifted identification, this study also found that the proportion of students who scored in the 98th percentile, and who would therefore be

identified as gifted, was commensurate across the White, Black, and Hispanic subgroups. In other words, the study was consistent with the proposition that the NNAT would be an equitable and fair assessment for use in gifted identification.

Other researchers, however, contend that nonverbal assessments are not as equitable and reliable for identifying gifted culturally and linguistically diverse students as purported by the proponents of these tests. A study by Lohman, Korb, and Lakin (2008) that examined whether ELL students scored comparably to non-ELL students on three of the most widely used nonverbal tests—the CogAT, the NNAT, and the Raven—found that the mean score for ELL students was substantially lower than the mean score for non-ELL students on all three nonverbal tests. Furthermore, contrary to Naglieri and Ford's (2003) finding that the NNAT identified equal proportions of students from each ethnic group, Lohman et al. (2008) found that Asian American and White students were more likely to receive stanine scores of nine (on a nine-point standard scale, with a mean of five) than students from other ethnic groups on all three nonverbal tests. In other words, these tests had a disparate impact across racial/ethnic subgroups. These findings suggest that nonverbal tests, by themselves, cannot compensate for the cultural differences, the lack of facility with the English language, and/or the poor access to quality educational opportunities which hinder a student's ability to pass a gifted screening process.

A comparison of several different nonverbal assessments by Lohman et al. (2008) demonstrated that there were significant differences in both the mean and score distribution among the Raven, NNAT, and CogAT nonverbal tests. The CogAT scores were approximately normally distributed for both ELL and non-ELL students, whereas Raven scores tended to be clustered higher on the score distribution, and NNAT scores tended to be clustered lower on the score distribution. These variations in score distribution mean that each test will identify different numbers of gifted students. More importantly,

Lohman et al. (2008) found that these three tests did not consistently identify the same students as gifted.

There are also legitimate reservations about the content validity and predictive validity of nonverbal tests. Lohman (2005) contends that the term "nonverbal" makes a statement about the items on the test and the responses required. However, it is not the case that verbal processes are not required to solve the items. Subsequently, Lohman (2005) claims a grasp of language is still important despite the nonverbal format of the test. Secondly, he contends that since mastery of verbal skills is required for success in school regardless of the student's ethnicity, tests that measure verbal and quantitative ability are better predictors of a student's success in a gifted program. Lastly, Lohman (2005) argues "Naglieri and Ford's (2003) finding that the NNAT identifies equal proportions of White, Black, and Hispanic students was supported only after the data had been re-weighted to make this happen" and that no other researchers have been able to replicate these findings (p. 5). Lohman (2005) does not completely dismiss the utility of nonverbal assessments, but recommends that high nonverbal scores should be used to qualify a student for advanced coursework only if it is accompanied by "evidence that the student's verbal or quantitative reasoning abilities are high *relative to other children who have had similar opportunities to develop these abilities"* (Lohman, 2005, p.6).

Regardless of the validity one attaches to nonverbal assessments, experts in the field recommend using multiple assessments of ability when assessing potentially gifted students. Teachers and gifted specialists should not consider the nonverbal test by itself as providing an equitable identification procedure. The results of nonverbal tests should be weighed in conjunction with a multiplicity of different sources of evidence for giftedness. Experts also widely agree that multiple sources of referral can circumvent the effect of teachers' bias. Other sources of referral include a parent, peer, automatic referral, and self-referral. A report from the Virginia Department of Education

(2010) provides a summary of best practices for identifying gifted students. The practices recommended in this report concur with the most validated scholarship pertaining to the subject of disproportionality in gifted education and fall into five categories: 1) clearly defining giftedness, 2) using data to monitor referral, identification, and retention, 3) creating comprehensive processes for student referral or nomination, 4) using multiple assessments to identify giftedness, and 5) shifting teacher training programs and professional development toward a multicultural paradigm (Virginia Department of Education, 2010).

Disproportionality in Gifted Education Among Low-Income Students

Strategies for addressing the disproportionality in gifted education that focus on referral practices, professional development on culturally responsive pedagogical skills, and the employment of nonverbal tests in conjunction with a variety of assessments show promise in increasing the identification and placement of racial/ethnic minorities in gifted programs. However, this set of practices, taken by itself, has one crucial limitation: it may not adequately address the underrepresentation of students from lower SES families in gifted education. As with racial disproportionality, disproportionality of student by SES is a persistent inequity. According to a report by the U.S. Department of Education in 1993, 47% of gifted students were from the top quartile of income level, whereas only 9% of gifted students were from the bottom quartile of income level (as cited in Ford, 2007).

Unfortunately, measures that are taken to reduce or eliminate racial bias in gifted identification do not necessarily eliminate disparities in the referral and assessment process for low-SES students. For instance, a child living in poverty might have an unstable household environment that is adversely affecting his or her level of achievement. There might be nutritional deficiencies or lack of a suitable place for studying which hinders the child's overall performance. Unlike middle-SES and high-SES

students, a gifted low-SES student may lack a parent advocate who pushes for their inclusion in a gifted program. Moreover, there is evidence that nonverbal assessments may not identify students of low-SES backgrounds at the same rate as students from middle- to high-SES backgrounds. A recent study by Carman and Taylor (2010) found that SES "accounted for a significant portion of the NNAT score variance after controlling for ethnicity" (p.78). Referring to this finding, Carman and Taylor point out that "these results suggest that students of the same represented/underrepresented ethnic group tend to score lower on the NNAT if they come from a low SES background" (p.78-79).

The tendency for low-SES students to perform poorly on assessments is just one of a multitude of challenges facing a gifted child living in poverty. Research reveals that SES has a powerful impact on a child's intellectual and linguistic development well before the child's first day of school. Hart and Risley (1995) showed that higher SES families talked more with their children and exposed them to more educational experiences than lower SES families, and by the age of three, IQ varied from 79 for low-SES to 117 for high-SES (as cited in Ford, 2007). Social class is also intertwined with a child's literacy. Numerous studies have consistently found that lower SES households have fewer books in the home. With less access to books, poorer children have fewer opportunities to develop their reading skills. A study by Fryer and Levitt (1992) analyzed data from the Early Childhood Longitudinal Survey (ECLS-K) and found that "the inclusion of a composite measure of socioeconomic status and the number of books in children's homes accounted for the entire reading gap between Black and White students and most of the gap between Latino and White students in kindergarten and first-grade" (as cited in Kim, 2010, p.4).

Recent research by Schwartz (2010) indicates that integrating low-income students into low-poverty schools has a substantial positive effect on these students' achievement levels, more so than strategies that exclusively focus on resources and school-based interventions in higher poverty schools. Although not specific to increasing gifted participation of minority and low-SES students, strategies to

increase achievement could impact opportunities to access gifted services. Generally, a student who is underachieving, despite his or her potential, is usually unlikely to be referred for gifted screening. High academic achievement is largely thought of as a marker for giftedness.

Schwartz (2010) examined the Montgomery County, Maryland integrated housing program's impact on student achievement and found that low-SES students living in public housing who were placed in neighborhoods served by low-poverty schools (less than 20% of students eligible for free and reduced priced meals) significantly outperformed their low-SES peers who were placed in neighborhoods served by moderate-poverty schools (20% to 85% of students are eligible for free and reduced priced meals). From 2001 to 2007, the disparity in math scores on the Maryland State Assessment between public housing students attending low-poverty schools and the district average was cut in half, from 17 to 8 normal curve equivalent (NCE) points. In comparison, the disparity between the scores of public housing students attending moderate-poverty schools and the district average in math remained constant over the seven-year period of the study. The achievement gap in reading narrowed from 17 to 13 NCE points for public housing students attending low-poverty schools, and as with math scores, public housing students attending moderate-poverty schools did not make gains relative to the district average reading score.

During the duration of the study, the district was also implementing its own equity measures in the most disadvantaged elementary schools in the school district, those identified as "red zone" schools (high-poverty schools). The district identified the remaining elementary schools as "green zone" schools (low-poverty schools). Under the county's plan, red zone schools were given additional resources, full day kindergarten, reduced class sizes, extra professional development, and a literacy-based curriculum. In spite of these red zone measures, the reading and math scores of public housing students in the red zones declined, whereas public housing students in the green zones (i.e. those attending low-poverty

schools) displayed significant test score increases. It is important to note that the public housing students in green zone schools achieved these gains without the additional resources or reforms that were provided to red zone students. This study suggests that integration by income level is a more promising and effective way to close the achievement gap than merely adding additional resources to schools with concentrated poverty.

A Talent Development Approach to Gifted Education

Since poverty significantly affects the intellectual and linguistic development of low-SES children, reform efforts that include measures that develop the talents of potentially gifted students from an early age by providing them with additional enrichment and quality instruction can help to identify and place more underrepresented students in gifted programs. Coupling talent development programs with nonbiased assessment procedures ensures that low-SES and other underrepresented groups of gifted students receive equitable opportunity to express their giftedness.

This section briefly describes several studies and programs that showed promise in increasing the numbers of underrepresented minorities and students from low-income backgrounds in gifted education by nurturing and developing the abilities of students with high potential. The first program described, Project U-STARS-PLUS, is a comprehensive and extensive framework for nurturing talent through differentiated instruction and systematic teacher observation. Then two studies are described: Project STAR, which highlights a task-based assessment that was used to identify more gifted underrepresented minority students, and Project Athena, which demonstrates the efficacy of a differentiated language arts curriculum designed for high-ability, low-income students. The last two programs described, Project Excite and Project LIVE, are talent development programs that increased low-income minority students' access to advanced coursework and advanced programs.

Project U-STARS~PLUS

Project U-STARS~PLUS (Using Science, Talents, Abilities to Recognize Students ~ Promoting Learning for Underrepresented Students) is a framework designed to promote the early recognition and nurturing of potential in low-SES and/or culturally/linguistically diverse children in the K-3 general education classroom. The rationale behind U-STARS~PLUS is to expose children with high potential early on to high-end learning opportunities so that they engage in the learning process and learn to express their talents. The aim is to prevent student disengagement from the learning process later in their educational careers. U-STARS~PLUS helps teachers couple differentiated instruction with systematic whole-class observation to identify students with high potential. The goal of the program is to provide students the opportunity to demonstrate their potential through instruction that encourages exploration and problem solving, while at the same time allow teachers to observe their students' progress in a way that does not presuppose who or what characteristics typify giftedness. Components of the U-STARS~PLUS program are described below.[2]

High-end learning opportunities. A central part of the U-STARS~PLUS framework is the provision of hands-on/inquiry-based science through differentiated instruction in the general education classroom. It is important for teachers to differentiate instruction because students with high potential may not exhibit their talents unless prompted by challenging curricula. Rollins, Mursky, Shah-Coltrane and Johnsen (2009) point out that "by providing differentiated experiences in science, as well as other areas, children become engaged with learning, problem solve in meaningful ways, and develop literacy skills and content-rich concepts and understandings" (p.23). In the U-STARS~PLUS framework, teachers provide both independent and group projects and encourage their students to engage in questioning and higher order thinking skills. To train teachers in differentiation, U-STARS~PLUS offers professional development modules, training materials, and classroom support materials.

[2] For a diagram of Project U-STARS~PLUS components refer to Appendix A.

Hands-on/inquiry-based science. Inquiry-based science provides the ideal context for bringing out hidden talents and potential in students. Unlike other domains, inquiry-based science does not depend on prior learning, nor does a lack of facility with the English language present a barrier to children who are non-native speakers of English. Thus, ELL students and students who have not had access to quality educational experiences prior to the elementary grades are not at a disadvantage. Hands-on/inquiry-based science can tap into different learning styles which may be neglected by traditional expository methods of instruction. Science is also easily integrated with other subject areas such as math, reading, writing, and the arts, and facilitates language development and communication skills.

Teachers' systematic observations. U-STARS~PLUS utilizes the Teacher's Observation of Potential in Students (TOPS) forms to assist teachers in recognizing potential in students from traditionally underrepresented and underserved populations and to assess their progress. This process encourages teachers to go from an "at-risk" to an "at-potential" mindset when assessing their students. In schools where the framework has been implemented, teachers report that they began noticing high potential in students who otherwise had not been thought of as gifted (Coleman, Harradine, McBee, & Shah-Coltrane, 2009). The TOPS assessment uses whole-class observation to formulate a differentiated curriculum and instruction, and can be used by teachers to develop intensive and individualized instruction for a student who is exhibiting above average potential. One of the main advantages of systematic observation is that a body-of-evidence of a child's ability is accumulated over time. This is preferential to high stakes verbal, quantitative, and nonverbal testing which has been shown to have a disparate impact on culturally and/or linguistically diverse students. In the U-STARS~PLUS framework, assessment is ongoing; it encompasses the entire class, and is done well before formal nomination to a gifted program.

Family and school partnerships. Since family involvement is essential in a child's intellectual and academic development, the U-STARS~PLUS framework encourages teachers to seek input from other school personnel and family members when assessing a student for referral to a gifted program. Also, the program provides family science packets—materials that provide science activities for parents to do with their child while at home—designed to facilitate parental involvement in the learning process. Survey data indicate that this component of U-STARS~PLUS improved family involvement. When surveyed 30% of the teachers believed home-school communication had improved, 20% said more families were helping students with homework, and 43% said schools were hosting more "family science nights" (Coleman et al., 2009).

Infrastructure building for systemic change. The U-STARS~PLUS emphasizes capacity building through professional development as a strategy for making the framework into lasting reforms. Fidelity of implementation rubrics are also available at the district, school, and classroom levels to help teachers and administrators recognize when they are implementing the framework optimally.

Research suggests that the U-STARS~PLUS program has been successful in identifying a broader range of students as gifted. A total of 985 teachers, 100 schools, and 35 districts from North Carolina, Louisiana, Colorado, and Ohio participated in U-STARS~PLUS over a five year period. Of the students that were identified as having high potential as a result of using the TOPS forms, 37% were non-White and 54% were non-White and low-SES. Furthermore, teachers said 46% of the Black children and 33% of the Hispanic children identified as having high potential would have been missed had they not used the TOPS forms. The survey data from the U-STARS~PLUS project also indicated that teachers felt more comfortable differentiating instruction, identifying potential in culturally and/or linguistically diverse students, and thought their school was a more collaborative and supportive environment (Coleman et al., 2009).

Project STAR

Project STAR, a study conducted by The Center for Gifted Education at The College of William and Mary, assessed the efficacy of using a performance task assessment to identify more economically disadvantaged and minority students for gifted education programs (VanTassel-Baska, Johnson, and Avery, 2002). For the purposes of the study, the researchers created a performance-based assessment that employed verbal and non-verbal tasks. The assessment incorporated an open-ended format that provided students an opportunity to display critical thinking and problem-solving abilities. A performance-based assessment can be more effective than traditional assessments for identifying gifted minority and low-SES students for a number of reasons. According to VanTassel-Baska et al. (2002) because criteria for creating a performance assessment mirrors the curriculum of a quality gifted program, a student's performance on the task assessment should provide evidence for a capacity to perform in a gifted program. Secondly, VanTassel-Baska et al. (2002) argue that task assessments are a helpful tool for identifying low-SES students as gifted because it is domain-specific. They write, "Economically disadvantaged populations stand a greater chance of being identified by measures that tap into a specific type of ability, rather than one that requires more general reasoning ability" (p.115). Lastly, the tasks do not assume prior learning, so a lack of experience with advanced concepts does not hinder a student's performance.

Results from Project STAR confirm that performance assessments increased the identification of minority and low SES students for gifted programs.[3] The Project STAR assessments identified an additional group of students who would not have been identified through traditional measures. Of those identified as gifted, 18.1% were of low-income and 12.6% were minority (VanTassel-Baska et al., 2002). The authors of the Project STAR study also point out benefits of the assessments which go beyond the

[3] For details of the Project STAR performance process, see VanTassel-Baska, J., Johnson, D., & Avery, L. D. (2002).

principle aim of increasing minority and low SES identification—benefits which can enhance the educational experience for all children. They write,

> The positive ramifications of this development for local districts include the reorientation of teachers to the characteristics and curricular needs of these students, thus heightening awareness of the need to revamp classroom practices accordingly…Such a reorientation in teacher strategies carries with it a promise for higher achievement at all levels of the education continuum (p.122).

Research on Project STAR indicates that students identified for gifted programs using the performance based assessments scored lower on state achievement tests than did students who were identified using traditional ability assessments and standardized test scores. For this reason, students who are identified for gifted programs through performance based assessments may need additional supports if they are to achieve at high levels on traditional acheivement tests.

Project Athena

Another study by researchers at the Center for Gifted Education at The College of William and Mary—Project Athena— demonstrated the effectiveness of using a differentiated language arts curriculum for high-ability learners in Title I schools. The central aim of the study was to determine whether curricula designed with advanced content and an emphasis on higher order thinking skills could increase language arts achievement and critical thinking skills in low-income populations.

Fifteen schools in Maryland, South Carolina, and Virginia implemented the Project Athena curriculum in grades 3-5 over three years. The experimental curriculum included three dimensions: advanced content, higher order processes and products, and conceptual understanding. Using this curriculum, students were assigned literature sections that were two years beyond the students' reading grade level. The curriculum also mandates "core models for teaching writing, reasoning, research, and a conceptual dimension focusing on the theme of change as it is applied to works of literature (Bracken, VanTassel-Baska, Brown, & Feng, 2007, p.64)." To test the efficacy of this

curriculum, it was implemented in an experimental group of classrooms and then compared to a control group of classrooms where the state mandated language arts curriculum was taught. Teachers were trained in the experimental curricula during the fall of each year of implementation. The students were assessed before and after the implementation of the experimental curricular unit, a period of 12 weeks, using the reading portion of the Iowa Tests of Basic Skills (ITBS) and the Test of Critical Thinking (TCT), an instrument designed to test critical-thinking skills (Bracken et al., 2007).

The results of the study showed that the experimental curriculum was more effective at fostering critical thinking skills and boosting achievement in reading than the state curricula. Across the three year period, experimental students "performed significantly better than did comparison students (Bracken et al., 2007, p.66)." The researchers did, however, find a slight ethnicity effect in both the TCT and ITBS scores, with White students having the best performance. Notwithstanding this slight variation in ethnicity, this study suggests that a challenging and differentiated curriculum can be used to bring out higher levels of achievement and critical thinking in potentially gifted, low-SES students.

Project Excite and Project LIVE

Project Excite and Project LIVE are two talent development programs designed by the Center for Talent Development (CTD) at Northwestern University to prepare gifted minority and low-income students for advanced tracks in high school. Though each of these programs is slightly different in scope and content (i.e. Project LIVE focused on language arts and writing skills, whereas Project Excite focused on math and science), the main components of both programs are the same: the provision of academic enrichment, outreach to parents, and the evaluation of the efficacy of the programs through assessments and placement rates into advanced tracks. Both programs also restricted participation to minority students and/or low-income students who demonstrated above-average ability. As such these programs represent a targeted approach for increasing the numbers of gifted underrepresented racial/ethnic minorities and low-SES students in advanced programs.

To implement Project Excite, the CTD at Northwestern University collaborated with Evanston Township High School District 202 and its feeder elementary district, Evanston/Skokie School District 65, two suburban school districts north of Chicago. The Evanston Township High School District is comprised of one high school, Evanston Township High School (ETHS), and the Evanston/Skokie School District is comprised of fifteen elementary schools. The goal of the project was to increase the number of minority students in advanced math and science programs at the high school level. The high school serves a diverse population that was 43.7% African American, 7.1% Hispanic, and 2.5% Asian. At the start of the program's implementation, minority students made up only 5% of the AP Chemistry/Physics Program, 11% of the Multivariable Calculus enrollment, and 8% of Calculus BC classes. The program offered a six year sequence of academic enrichment classes that included after-school sessions, Saturday enrichment classes and summer offerings for students in grades 3 to 8.[4] The offerings were mainly in math and science, but students also had the opportunity to take a variety of arts and humanities through the Center for Talent Development's Saturday Enrichment Program (SEP). Parental and peer support for students were central components of the program. School based parental meetings and seminars were held with motivational speakers and experts on the talent development of gifted minority students. As Olszewski-Kubilius, Lee, Ngoi, and Ngoi (2004) describe it, "these talks focus on ways in which parents can cultivate high achievement, create a home environment that supports achievement, and work with schools to ensure that students are performing at high levels in school" (p.136). Project Excite also enlisted the help of successful high school students to tutor and lead small discussion groups with students after school or on weekends. The rationale behind both of these measures was that being surrounded by support, role models and high expectations is essential to success in advanced tracks.

[4] For a full and detailed description of Project Excite's program components, visit http://www.ctd.northwestern.edu/excite/program/program-components/.

Researchers found that Project Excite had a positive impact on students' placement rate into an accelerated math track and on scores on state assessments. Of the 17 students who were the first cohort of students in Project Excite, 15 students were accelerated in math by one or two years (i.e. completed Algebra 1 or both Algebra 1 and Geometry) before grade 9, and of these 15 students, 13 enrolled in honors math and science in high school (Lee, Olszewski-Kubilius, & Peternel, 2009). This cohort's success represents a 300% increase from previous years in the number of low-income minority students entering grade 9 who completed Algebra I (Olszewski-Kubilius, 2007). On the Illinois Standards Achievement Test (ISAT), Project Excite students improved their proficiency level on the state assessment over the course of the project's duration. As fifth graders, in 2003, only 30% of African American Project Excite students and none of the Project Excite students of Hispanic origin exceeded the state standards. On the 2006 ISAT, as eighth graders, 90% of these African American students and 67% of the Hispanic students scored in "exceeds" category, compared to 18% and 27% respectively for other students in the school district (Lee et al., 2009).

Project LIVE (Launch into Verbal Excellence), also a collaboration between the CTD at Northwestern University and Evanston-Skokie School District 65, is a three year talent development program geared toward verbally talented, low SES students in middle school. The program was launched in 2005 with a group of sixth-grade students and continued until 2008. Modeled after Project Excite, Project LIVE provided supplemental out-of-school academic enrichment experiences to students who read above grade level. The enrichment components of the program consisted of an after school reading/discussion group which engages in both fiction and nonfiction content, writing activities, and short courses on etymology, grammar and usage; a 3-week long writing course at Evanston Township High School (ETHS); an intensive 3-week long writing course in the summer following the seventh-grade at the CTD at Northwestern University; and one Saturday activity per month where students went on trips, largely to museums, libraries, theaters, and cultural institutions (Lee, Olszewski-Kubilius, &

Peternel, 2010). To be eligible for the program, students had to be performing above grade level on the ISAT reading and writing portions, be of low to moderate family income, have an interest in the program, have strong teacher recommendations, and complete a lengthy application with student essays and parent statements (Lee et al., 2010; Olszewski-Kubilius, 2007).

Like Project Excite, the goal of Project LIVE was to increase the number of low-income students in the high school's honors English program. The district used the EXPLORE test, a nationally normed standardized test developed by American College Testing Corporation, to assess eighth grade students' readiness for the high school honors program; placements into honors courses were based on these scores. In order to give Project LIVE students practice with this test, the EXPLORE test is given to students in both the sixth and seventh grade. Results from the three years of administering the EXPLORE test and eventual placement rates into the high school's Honors English classes indicate that Project LIVE was effective in raising the verbal abilities of the participating students. Project LIVE students' scores on the EXPLORE test rose in each of the three years, and out of the 37 students who completed the LIVE program in Grade 8, 26 (70%) of the students were placed in Honors English in the high school in the fall of 2008. The authors of the Project LIVE study note that this placement rate of 70% is noteworthy given that 47% of freshman in the school district were placed in Honors English (Lee et al., 2010).

By attaining above-average placement rates in the high school Honors English program and progressively scoring better on the EXPLORE test year after year, the success of Project LIVE students demonstrates that interventions targeted toward diverse and/or low-income students can help reverse the underrepresentation of these groups in advanced courses and gifted programs. Taken together, both Project LIVE and Project Excite provide a model for talent development programs: they offer a wide variety of enrichment opportunities, incorporate and educate parents in the talent development process, and create an environment that fosters positive peer interaction and high expectations.

Summary

Demographic data indicate that the mid-Atlantic region is becoming more diverse, that the percentage of predominantly minority schools in the region has increased, and the percentage of racially isolated White schools has decreased. The data also indicate that schools with a larger percentage of Black and Hispanic students tend to have greater numbers of FRL students than predominantly White schools. Taken together, these demographic changes suggest that as schools and districts become more diverse, they may need to enhance their policies and practices to ensure that gifted minority and low-income students are identified and provided opportunities to develop their talents.

The problem of disproportionality in gifted education has many roots. Generally, a deficit orientation, ineffective teacher referral policies, and the use of culturally biased assessments are the factors most often cited as causes of disproportionality in gifted education. To remedy the disproportionality, many researchers and administrators have focused on the use of nonverbal assessments to circumvent the cultural and linguistic bias of traditional intelligence tests and to provide an assessment for ELLs that does not require English language proficiency. However, there is a lack of a consensus among researchers on the effectiveness of nonverbal tests for identifying gifted students. Lohman (2008), for example, demonstrated that nonverbal assessments have a disparate impact on Black students, Hispanic students and ELLs.

To ensure that under-represented groups of students are identified and referred to gifted education, this report recommends a two-pronged approach. Since nonverbal assessment, by itself, may not remedy the issue of disproportionality in gifted education, assessment processes must include multiple measures when assessing students for giftedness. Second, because poverty strongly affects a child's intellectual and linguistic development, reform efforts should also include programs that develop the talents of potentially gifted students in the early grades, prior to formal assessment for gifted

services. A number of talent development programs reviewed here demonstrates the promise of this approach.

To give school and district leadership a purview of the various talent development approaches that have been successful, this report highlighted several programs, each with a different approach to talent development. Project U-STARS~PLUS combined professional development, systematic teacher observation, inquiry-based science, and differentiation. Project STAR utilized an innovative performance task assessment to identify students whose talent would be overlooked by traditional ability assessments. Project Athena demonstrated the efficacy of a differentiated language arts curriculum with advanced content for low income students with high potential. Project Excite and Project LIVE were talent development programs that prepared low SES students for advanced/accelerated tracks in high school by providing academic enrichment, outreach to parents, and mentoring. While this list of promising programs is not exhaustive, research on these programs does suggests that the early preparation and a focus on developing the potential of minority and low-income students can increase their participation in gifted and advanced programming.

Recommendations

To address the underrepresentation of minorities and low-income students in gifted programming requires a coordinated approach that takes into account referral processes, assessment and identification of potentially gifted students, and the implementation of talent development programs to develop the talents of potentially gifted students from an early age. Mostly importantly, it requires identifying the sources of disproportionality by subgroup in gifted programming. We make the following recommendations to address these issues.

- Referrals to initiate the assessment process should come from a variety of sources (parent, peer, automatic referral, and self-referral) in addition to teacher referrals.

- Nonverbal tests should be used in conjunction with evidence from a variety of sources when screening a student for a gifted program. In cases where nonverbal tests alone are used to make a placement decision, scores on several nonverbal tests that measure the same construct should be converted to a common scale and then averaged since it is likely that a student who is identified by one test will not be identified by another test (Lohman et al, 2008).

- To get a true sense of disproportionality, school districts need to annually measure racial/ethnic proportionality in gifted programming using both gifted program enrollment and overall district-wide student enrollment data *by subgroup*.

- School districts should conduct an annual internal review of the efficacy of their gifted education program. This would include expanding data collection to include data on disproportionality and longitudinal data on gifted students' achievement, if this data is not collected already. *T*he types of data a district would review should include AP scores, PSAT scores, scale scores on state achievement tests, and attrition rates as students transition from middle school to high school gifted/advanced placement offerings. The school system should also consider setting yearly statistical targets for decreasing disproportionality, i.e. reducing a certain percentage of the disproportionality each school year.

- Efforts to increase the participation of low-SES students in a gifted program should not start at the point of assessment; rather, the district should implement a talent development strategy that provides additional enrichment and quality instruction t*o* promising students early in their education. This should be supported by professional development that trains teachers to effectively differentiate instruction for high-ability learners and to recognize potential in traditionally underrepresented students.

- School districts should annually review its screening and placement criteria for its gifted education program services and consider strategies to decrease disproportionality across subgroups. For example, compensatory points may be considered for students who qualify for free or reduced price lunch in the gifted screening process.

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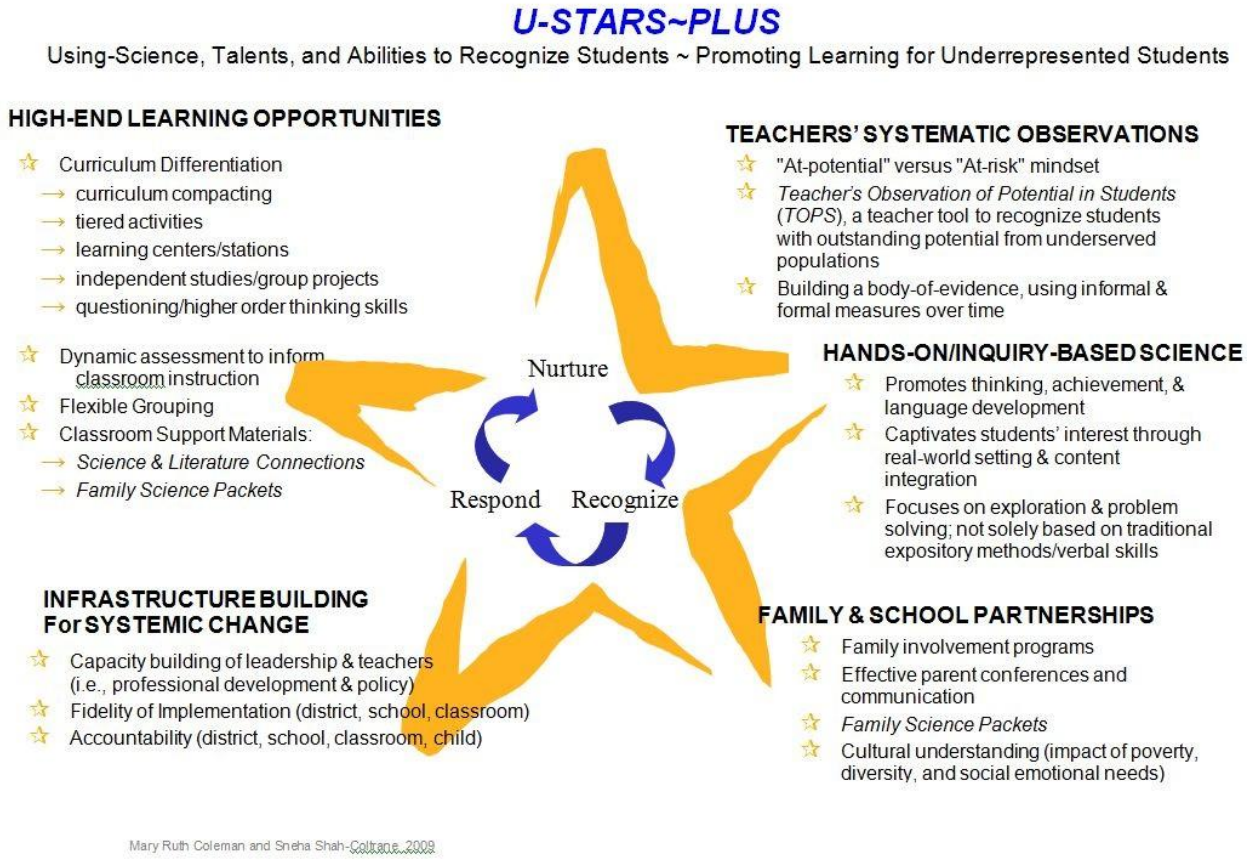
Appendix A


U-STARS~PLUS
Using-Science, Talents, and Abilities to Recognize Students ~ Promoting Learning for Underrepresented Students
HIGH-END LEARNING OPPORTUNITIES
Curriculum Differentiation
→ curriculum compacting
→ tiered activities
→ learning centers/stations
→ independent studies/group projects
→ questioning/higher order thinking skills
Dynamic assessment to inform classroom instruction
Flexible Grouping
Classroom Support Materials:
→ Science & Literature Connections
→ Family Science Packets
TEACHERS' SYSTEMATIC OBSERVATIONS
"At-potential" versus "At-risk" mindset
Teacher's Observation of Potential in Students (TOPS), a teacher tool to recognize students with outstanding potential from underserved populations
Building a body-of-evidence, using informal & formal measures over time
HANDS-ON/INQUIRY-BASED SCIENCE
Promotes thinking, achievement, & language development
Captivates students' interest through real-world setting & content integration
Focuses on exploration & problem solving; not solely based on traditional expository methods/verbal skills
Nurture
Respond
Recognize
INFRASTRUCTURE BUILDING For SYSTEMIC CHANGE
Capacity building of leadership & teachers (i.e., professional development & policy)
Fidelity of Implementation (district, school, classroom)
Accountability (district, school, classroom, child)
FAMILY & SCHOOL PARTNERSHIPS
Family involvement programs
Effective parent conferences and communication
Family Science Packets
Cultural understanding (impact of poverty, diversity, and social emotional needs)
Mary Ruth Coleman and Sneha Shah-Coltrane, 2009